

CLAIMS

What is claimed is:

1. A wastewater ballast method comprising the steps of:
collecting wastewater;
treating the collected wastewater;
storing the treated wastewater as ballast; and
discharging the treated wastewater during ballast operations.
2. The wastewater ballast method of claim 1 wherein the step of treating wastewater comprises the steps of:
filtering the wastewater to remove sludge and particulate matter; and
decontaminating the wastewater to destroy fecal coliforms, bacteria, and pathogens.
3. The wastewater ballast method of claim 2 wherein the step of decontaminating the wastewater comprises the step of:
dosing the wastewater with electromagnetic radiation.
4. The wastewater ballast method of claim 1 further comprising the steps of:
testing the treated wastewater;
retreating the treated wastewater if the tested wastewater does not meet predetermined thresholds.

5. The wastewater ballast method of claim 1 further comprising the step of:
sampling the treated wastewater; and
testing the samples.
6. The wastewater ballast method of claim 1 further comprising the step of:
retreating the stored, treated wastewater.
7. The wastewater ballast method of claim 1 wherein the step of discharging the treated wastewater during ballast operations comprises the step of discharging the treated wastewater during in-port de-ballast operations.
8. The wastewater ballast method of claim 1 wherein the step of storing the treated wastewater comprises the step of circulating the stored wastewater through a disinfection unit to destroy fecal coliforms, bacteria, and other pathogens.
9. A wastewater ballast system comprising:
a wastewater treatment system for receiving and treating wastewater; and
a wastewater ballast tank for storing the treated wastewater as ballast;
a ballast discharge system for discharging the treated wastewater from said wastewater ballast tank.

10. The ballast system of claim 9 wherein said wastewater treatment system comprises:

a sludge and particulate removal system; and
a disinfection unit.

11. The ballast system of claim 9 further comprising:
a monitoring unit for testing the treated wastewater; and
a disinfection unit for disinfecting the treated wastewater that is stored in said wastewater ballast tank; and

a pump for circulating the stored, treated wastewater through said disinfection unit.

12. The ballast system of claim 9 further comprising:
at least one seawater ballast tank for receiving, holding, and discharging seawater ballast; and

at least one sample port for testing the treated wastewater prior to discharge.

13. The ballast system of claim 11 wherein said disinfection unit comprises an ultraviolet treatment unit.

14. The ballast system of claim 11 further comprising:
- a control system, wherein the control system controls operation of said wastewater treatment system, said ballast discharge system, said monitoring unit, said disinfection unit, and said pump.
15. A contingency wastewater ballast method comprising the steps of:
- treating wastewater;
- storing treated wastewater;
- testing the treated wastewater;
- exchanging seawater ballast water at sea by taking in seawater as ballast upon entry into regional waters;
- discharging the treated wastewater during ballast operations if the treated wastewater meets testing thresholds; and
- discharging the regional seawater ballast during in-port ballast operations if the treated wastewater does not meet testing thresholds.
16. The contingency ballast method of claim 15, wherein the step of taking in local seawater as ballast upon entry into regional waters comprises the steps of:
- discharging non-local seawater ballast upon entering regional waters; and
- taking in regional seawater as ballast.